GOVERNMENT OF WESTERN AUSTRALIA

Clearing Permit Decision Report

Government of Western Australia
Department of Environment Regulation

1. Application details

1.1. Permit application details

Permit application No.: 6308/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Mr Frank Pace

1.3. Property details

Property: LOT 18717 ON DEPOSITED PLAN 87429 (BALKULING 6383)
Local Government Area: Shire of Quairading

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
65		Mechanical Removal	Grazing & Pasture

1.5. Decision on application

Decision on Permit Application: Refuse
Decision Date: 7 April 2015

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Mapped Beard Vegetation Association 947 is described as medium woodland; powderbark & mallet (Shepherd et al, 2001). Mapped Beard Vegetation Association 1049 is described as medium woodland; wandoo, York gum, salmon gum, morrel & gimlet (Shepherd et al, 2001).	The clearing of 65 hectares of native vegetation within Lot 18717 on Deposited Plan 87429, Balkuling, is for the purpose of pasture.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994) To Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The condition and description of the vegetation was determined via a site inspection undertaken by Department of Environment Regulation Officers in November 2014. The vegetation under application is largely comprised of Wandoo open woodland (DER, 2014).

3. Assessment of application against Clearing Principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposal is at variance to this Principle

This applicant proposes to clear 65 hectares of native vegetation within Lot 18717 on Deposited Plan 87429, Balkuling, for the purpose of generating pasture. The vegetation under application is comprised of Wandoo open woodland with a range of smaller scale habitats such as breakaways and shrubland (Parks and Wildlife, 2014a) in good to very good (Keighery, 1994) condition (DER, 2014). The area is fenced, however some grazing may have occurred in the past.

The application area occurs within the Avon Wheatbelt Bioregion and Western Mallee sub-Bioregion. There is significant native plant species turnover within the Mallee-Heath vegetation formations within this region, which contributes towards the high flora diversity of this area (Burgman, 1988).

Several priority flora species have been recorded in the local area (20 kilometre radius). A site inspection undertaken in November 2014 by the Department of Parks and Wildlife (Parks and Wildlife 2014a) determined that based on the soil and vegetation types on site, the application area includes suitable habitat for six species of rare flora, and 12 species of priority flora (two priority 1).

There are no threatened or priority ecological communities mapped within or adjacent to the area proposed for clearing. There is however potential for the Woody Pear Low Level Sandplain (Xylomelum / Banksia prionotes) Priority 1 Ecological Community to be present on site (Parks and Wildlife, 2014a).

Several fauna of conservation significance have been mapped within the local area, and based on the habitat on site, the application area provides suitable habitat for the Red-tailed Phascogale (Phascogale calura), Shield-backed Trapdoor Spider (Idiosoma nigrum), and Carnaby's cockatoo (Calyptorhynchus latirostris) (Parks and Wildlife, 2014a). These species are all classified as rare or likely to become extinct under the Wildlife Conservation Act 1950. Given that the landscape surrounding the application has been extensively cleared, large-sized remnants, such as the 65 hectare area proposed for clearing, represent a significant habitat resource for flora and fauna within a highly fragmented local landscape.

The local area surrounding the application has been extensively cleared and retains approximately five to ten per cent native vegetation.

The area under application is mapped as Beard Vegetation Association (BVA) 1049 which has been identified as a high priority ecosystem for protection due to its valley floor landform location (Parks and Wildlife, 2014a). This association retains seven per cent of its pre-European extent and has been extensively cleared in the Wheatbelt Bioregion as its loamy soils are conducive to high wheat production (Parks and Wildlife, 2014a). BVA 1049 is also endemic to the Avon Wheatbelt Bioregion, occurring nowhere else within Western Australia.

The application area is in a good to very good (Keighery, 1994) condition (DER, 2014), occurs within an extensively cleared landscape, contains suitable habitat for three fauna species classified as rare or likely to become extinct, and may include several species of rare and priority flora. Therefore the proposed clearing is at variance to this Principle.

Methodology

References:
-Burgman (1988)
-Keighery (1994)
-DER (2014)
-Parks and Wildlife (2014a)

GIS Databases:
-SAC Bio Datasets (Accessed December 2014)
-NLWRA, Current Extent of Native Vegetation

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments

Proposal is at variance to this Principle

The following threatened and priority fauna species have been identified within a 20 kilometre radius of the application area, either in the same vegetation type (structure), association or broad soil mapping unit as that contained in the proposed clearing area: Tree-stem Trapdoor Spider (Aganippe castellum), Rainbow Bee-eater (Merops ornatus), Peregrine Falcon (Falco peregrinus), Bilby (Macrotis lagotis), Red-tailed Phascogale (Phascogale calura), Carnaby's cockatoo (Calyptorhynchus latirostris) and Shield-backed Trapdoor Spider (Idiosoma nigrum) (DPaW, 2007-).

The Tree-stem Trapdoor Spider prefers habitat in flood-prone depressions and flats that support myrtaceous shrub communities. The burrows of this species are specially designed with an aboveground entrance to withstand occasional sheet flooding (DEC, 2008). The application area is not within a flood-prone depression or flat and is therefore unlikely to comprise significant habitat for this species.

The Rainbow Bee-eater and Peregrine Falcon are highly mobile avian species that occupy large home ranges, therefore the proposed clearing is not likely to significantly impact these species.

The Red-tailed Phascogale's preferred habitats are Allocasuarina woodlands with hollow-containing eucalypts (such as Eucalyptus wandoo) and Gastrolobium sp. A large proportion of nest sites are in highly flammable locations, such as stands of dead Allocasuarina spp. and the skirts and stumps of live and dead grass trees (Xanthorrhoea spp.). Trees need to be of a sufficient age to provide hollows for nesting in limbs or logs (DEC, 2012). There were several small hollows within trees located on site (DER, 2014), therefore the application area may contain significant habitat for this species, particularly given that the surrounding landscape has been extensively cleared.

The Shield-backed Trapdoor Spider (Idiosoma nigrum) typically inhabits clay soils of eucalypt woodlands and acacia vegetation, and relies heavily on leaf litter and twigs to build its burrow (DotE, 2013). The application area is largely comprised of open woodland of Eucalyptus wandoo, with mapped soil type Ewarts 2 Phase Map unit 256 MbES2 consisting of sand and loamy sands over yellow clay, gravelly ridges with heavier soils occurring below the breakaway (Commissioner of Soil and Land Conservation, 2014). The habitat on site is consistent with the requirements of the Shield-backed Trapdoor Spider, and given that a recent nearby record (2010) has been taken, the application area may comprise significant habitat for this species.

Carnaby's cockatoo is known to forage on the seeds, nuts and flowers of proteaceous species (Banksia, Hakea, Grevillea), as well as Allocasuarina and Eucalyptus species (Valentine and Stock, 2008). The application area provides suitable foraging habitat for Carnaby's cockatoo given the prevalence of Wandoo woodland.

The Commonwealth referral guidelines (Commonwealth of Australia, 2012) for Carnaby's cockatoo identify that 'Breeding habitat is defined in these referral guidelines as trees of species known to support breeding within the range of the species which either have a suitable nest hollow, or which are of a suitable diameter at breast height (DBH) to develop a nest hollow. For Salmon Gum and Wandoo, suitable DBH is 300 millimetres'. These guidelines indicate that Wandoo and Salmon Gum are the preferred tree species for breeding. The application area has not been surveyed for fauna by a qualified zoologist, however no active nest hollows were observed during an onsite assessment (Parks and Wildlife, 2014a, DER, 2014). The several trees with small hollows on site have the potential to provide breeding habitat for this species.

The application area falls within the extensively cleared Shire of Quairading (nine per cent pre-European vegetation remaining), and includes a mapped vegetation association with seven per cent of its pre-European vegetation remaining, within a landscape that retains approximately five to ten per cent native vegetation. Therefore the 65 hectares of suitable foraging habitat and potential breeding habitat for Carnaby's cockatoo (predominantly open Wandoo woodland) is considered significant.

The 65 hectare area proposed for clearing is also likely to provide value as a stepping stone for fauna within a highly fragmented local landscape. The proposed clearing may decrease the movement of fauna across the landscape and potentially limit movement between conservation reserves.

Given the above, the proposed clearing is at variance to this Principle.

Methodology

References:
-DPaW (2007-)
-DEC (2012)
-DEC (2008)
-DER (2014)
-DotE (2013)
-Commissioner of Soil and Land Conservation (2014)
-Parks and Wildlife (2014a)
-Commonwealth of Australia (2012)
-Valentine and Stock (2008)

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments

Proposal may be at variance to this Principle

The closest mapped rare flora species to the application area is a lignotuberous shrub, mapped approximately 50 metres from the southern boundary of the area proposed for clearing. This species grows to three metres in height, flowers in October and has a preference for sand, loam or clay (Western Australian Herbarium, 1998-). This species has a restricted distribution within a highly fragmented landscape, with a low number of recorded individuals (Parks and Wildlife, 2014b). The application area contains sand and loamy sands over yellow clay, and given the close proximity of this abovementioned mapped occurrence, the vegetation under application may include this species.

The Department of Parks and Wildlife Wheatbelt Region has recently confirmed the occurrence of one rare flora species from the freehold remnant adjacent to the application area (Parks and Wildlife, 2014a). This species is a dioecious shrub, growing to 0.5 to 1.5 metres high on sand over laterite on low ridges and quartz outcrops (Western Australian Herbarium, 1998-) and has the potential to occur within the application area (Parks and Wildlife, 2014a). It is advised that a further three species of rare flora may occur within the application area based on commonalities of preferred habitat for these species with the application area (Western Australian Herbarium, 1998-).

The proposed clearing may be at variance to this Principle.

Methodology

References:
-Western Australian Herbarium (1998-)
-Parks and Wildlife (2014a)
-Parks and Wildlife (2014b)

GIS Databases:
-SAC Bio Datasets (Accessed December 2014)

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments

Proposal is not at variance to this Principle

There are no mapped threatened ecological communities (TEC) within the local area (20 kilometre radius) of the proposed clearing, therefore the vegetation under application does not comprise the whole or part of a TEC.

Given the above, the proposed clearing is not at variance to this Principle.

Methodology GIS Databases:
-SAC Bio Datasets (Accessed December 2014)

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments **Proposal is seriously at variance to this Principle**
The local area surrounding the application (20 kilometre radius) has been extensively cleared and there is approximately five to ten per cent native vegetation remaining.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The Avon Wheatbelt Bioregion and Shire of Quairading retain considerably less than the 30 per cent threshold with approximately 19 and 9 per cent of their pre-European vegetation remaining respectively.

The 65 hectare area proposed for clearing contains 13.77 hectares (21.2 per cent) of Beard Vegetation Association (BVA) 1049 and 51.23 hectares (78.8 per cent) of BVA 947. BVA 1049 is endemic to the Avon Wheatbelt Bioregion and therefore occurs nowhere else in Western Australia. BVA 947 is restricted to the Avon Wheatbelt 2 (ancient drainage) and Northern Jarrah Forest (JF1) (Parks and Wildlife, 2014a). BVA 947 and 1049 retain approximately 35 and 7 per cent of their pre-European vegetation extents respectively.

The application area provides significant habitat for Carnaby's Cockatoo, suitable habitat for the Shield-backed Trapdoor Spider and Red-tailed Phascogale and may provide significant habitat for, and include, a number of rare and priority flora species. Therefore the vegetation under application is considered a significant remnant.

Given the environmental significance of the application area and that the local area, Avon Wheatbelt Bioregion, Shire of Quairading and BVA 1049 all retain considerably less than the 30 per cent threshold, the proposed clearing is seriously at variance to this Principle.

Managed Lands	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife (%)
IBRA Bioregion*				
Avon Wheatbelt	9,517,110	1,778,407	19	10
Shire*				
Shire of Quairading	201,690	18,907	9	8
Beard Vegetation Association				
947	34,017	11,775	35	41
1049	833,385	56,843	7	6

Government of Western Australia (2013)

Methodology References:
-Government of Western Australia (2013)
-Commonwealth of Australia (2001)
-Parks and Wildlife (2014a)

GIS Databases:
-NLWRA, Current Extent of Native Vegetation

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments **Proposal is at variance to this Principle**
The closest wetland or watercourse to the application area is a minor non perennial watercourse that runs from the northern portion through to the centre of the application area. No major watercourses or wetlands occur within close proximity to the application area.

Given the presence of a minor non perennial watercourse on site, the proposed clearing is at variance to this Principle.

Methodology GIS Databases:
-Hydrography, linear
-Hydrography, hierachy

-Geomorphic Wetlands, Wheatbelt

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments

Proposal may be at variance to this Principle

The application area has been mapped as Ewarts 2 Phase Map unit 256 MbES2, with a lesser area of Quailing 2 Phase Map unit 256MbQU2. The Ewarts soils are a range of sand and loamy sands over yellow clay, gravelly ridges with heavier soils occurring below the breakaway. The Quailing 2 soils are yellow and pale sandplain and gravelly soils above the breakaway. The application area occupies upper and mid slope positions in the landscape (Commissioner of Soil and Land Conservation, 2014).

A Land Degradation Assessment Report undertaken by the Department of Agriculture and Food Western Australia identified that the proposed clearing is not expected to alter the risk of waterlogging on site, and the risk of waterlogging causing appreciable land degradation is low (Commissioner of Soil and Land Conservation, 2014).

The assessment identified that the risk of water erosion causing land degradation is low given the presence of permeable soils on site and that the area is intended for pasture. Eutrophication and flooding are also not likely to result in appreciable land degradation as a result of this clearing being approved (Commissioner of Soil and Land Conservation, 2014).

The Commissioner of Soil and Land Conservation (2014) has advised that, if cleared, ground water recharge under the sandy soils of the application area is likely to be high and therefore an incremental increase in salinity of waterways down gradient would be expected. Land monitoring indicates that the application area has a medium to high salinity risk associated with land clearing.

The sandy soils identified on site are also prone to wind erosion which may result in appreciable land degradation if left exposed for long periods.

Given the above, the proposed clearing may be at variance to this Principle.

Methodology

References:
-Commissioner of Soil and Land Conservation (2014)

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments

Proposal may be at variance to this Principle

The closest conservation area to the proposed clearing is an un-named Nature Reserve located approximately 3.2 kilometres east of the application area. A separate un-named Nature Reserve is located approximately 4.3 kilometres south, and Dangin Nature Reserve and Dulbelling Nature Reserve are located 11 and 12 kilometres south east respectively.

There are small areas of remnant vegetation scattered between the application area and the abovementioned reserves. The local area (20 kilometre radius) surrounding the application retains five to ten per cent native vegetation and therefore large sized remnants, such as the 65 hectare area proposed for clearing, are likely to provide value as a stepping stone for fauna within a highly fragmented local landscape. The proposed clearing may therefore influence movement of fauna across the landscape and potentially limit movement between conservation reserves.

Given the above, the proposed clearing may be at variance to this Principle.

Methodology

GIS Databases:
-DEC Tenure
-NLWRA, Current Extent of Native Vegetation

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments

Proposal may be at variance to this Principle

The closest wetland or watercourse to the application area is a minor non perennial watercourse that runs from the northern portion through to the centre of the application area. No major watercourses or wetlands occur within close proximity to the application area.

The proposed clearing may cause a short term increase in sedimentation of the watercourse during rainfall, however this is likely to be minimal given the minor non perennial nature of the watercourse.

The Commissioner of Soil and Land Conservation (2014) has advised that, if cleared, ground water recharge under the sandy soils of the application area is likely to be high and therefore incremental increases in salinity of waterways down gradient would be expected. It is advised that land monitoring indicates that the application area has medium to high salinity risk associated with land clearing.

Given the above, the proposed clearing may lead to the incremental deterioration of surface and/or groundwater quality through increased salinity, therefore the proposed clearing may be at variance to this Principle.

Methodology References:
-Commissioner of Soil and Land Conservation (2014)

GIS Databases:
-Hydrography, linear
-Hydrography, hierachy
-Geomorphic Wetlands, Wheatbelt

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments **Proposal is not likely to be at variance to this Principle**
The Commissioner of Soil and Land Conservation (2014) has advised that the proposed clearing is unlikely to increase surface water run-off which would contribute to stream flows. As no significant change is expected, the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
-Commissioner of Soil and Land Conservation (2014)

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments The proposed clearing falls within the Avon Rights in Water and Irrigation Surface Water Area. The Department of Water was notified of the application and advised that it had no comment (DoW, 2014).

The application area is zoned 'farming' under the town planning scheme.

The application area is within the agricultural area defined in Environmental Protection Authority Position Statement No.2 (EPA 2000), which states that significant clearing of native vegetation has already occurred on agricultural land, leading to a reduction in biodiversity and increase in land salinization. Therefore there is a general presumption against clearing within this area for agricultural purposes (EPA, 2000).

In exceptional circumstances the EPA would consider supporting clearing for agriculture within this region if:
(a) There are alternative mechanisms for protecting biodiversity.
(b) The area to be cleared is relatively small, depending on the scale at which biodiversity changes over the area, including extent of vegetation in the surrounding area and recognising that values will vary for different ecosystems.
(c) The proponent demonstrates that the elements set out in Section 4.3 of this Position Statement are being met. This will require extensive local and regional biodiversity work.
(d) Land degradation, including aquatic environments and threatening processes, such as dieback, salinisation or disruption of catchment processes, on-site and off-site would not be exacerbated.

Several submissions have been received from the Quairading Land Care District Council (LCDC, 2014). The submissions identify a number of concerns including erosion, pasture productivity and downstream water problems.

Methodology References:
-DoW (2014)
-EPA (2000)
-LCDC (2014)

GIS Databases:
-Town Planning Scheme Zones

4. References

Burgman, M.A. 1988. Spatial Analysis of Vegetation Patterns in Southern Western Australia :Implications for Reserve Design. Australian Journal of Ecology 13:415-429.

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Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species, Canberra.

DPaW (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: http://naturemap.dpaw.wa.gov.au/. Accessed November 2014.

DEC (2012) Fauna Data Profile for Red-tailed Phascogale. Department of Environment and Conservation, Western Australia.

DEC (2008) Avon Species Conservation Plan. Tree-Stem Trapdoor Spider (Aganippe castellum) Conservation Plan. Department of Environment and Conservation, Perth, Western Australia.

DotE (2013) Approved Conservation Advice for Idiosoma nigrum (shield-back spider). Department of the Environment, Canberra.
DER (2014) Site Inspection Report for Clearing Permit Application CPS 6308/1. Site inspection undertaken 28/10/2014. Department of Environment Regulation, Western Australia (DER Ref A849180).
DoW (2014). Rights in Water and Irrigation Response for Clearing Permit Application 6308/1. Department of Water, Western Australia. DER Ref A833529.
EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority, Western Australia.
Government of Western Australia (2013) 2013 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2013. WA Department of Parks and Wildlife, Perth.
Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
LCDC (2014) Direct Interest Submission for Clearing Permit Application CPS 6308/1. Quairading Land Care District Committee, Western Australia (DER Ref A849067).
Parks and Wildlife (2014a) Regional Advice for Clearing Permit Application CPS 6308/1. Department of Parks and Wildlife, Western Australia (DER Ref A849079).
Parks and Wildlife (2014b) Species and Communities Flora Advice for Clearing Permit Application CPS 6308/1. Department of Parks and Wildlife, Western Australia (DER Ref A849077).
Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
Valentine, L.E. and Stock, W. (2008) Food Resources of Carnaby's Black Cockatoo (Calyptorhynchus latirostris) in the Gnangara Sustainability Strategy Study Area. Edith Cowan University and Department of Environment and Conservation. December 2008.
Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. http://florabase.dpaw.wa.gov.au/ (Accessed December 2014).